



## Bureau of Land & Water Quality

### O&M Newsletter

January 2006

A monthly newsletter for wastewater discharge licensees, treatment facility operators, and associated persons

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#### DMR-QA Study 25 Update

Thank you to all wastewater treatment facility operators that participated in the 2005 Discharge Monitoring Report – Quality Assurance Study 25. I have received the evaluations from the various provider laboratories. As in 2004, I did not require copies of the permittee “data packages”. You should always maintain copies of data packages sent to provider laboratories in your files for at least three years.

Permittees receiving “Not Acceptable” results on evaluations should have investigated the causes of any discrepancies reported by their provider laboratories. The causes and any corrective actions to prevent laboratory errors in the future should have been detailed in a letter sent to Ken Jones by December 8, 2005. A copy of this letter should be sent to your compliance inspector as well. We both want to help you improve your laboratory work. Technical assistance is available from DEP staff to WWTF operators for lab issues as needed. Call your facility inspector or me (287-4869) to discuss problems with your routine lab procedures.

You should also explore any “Check For Error” results on your provider lab evaluation report. This would mean that these results are marginal at present. You should try to optimize the lab procedure now before it perhaps becomes “Not Acceptable” next time.

The vast majority of Maine WWTF labs received “Acceptable” evaluations again in 2005. Congratulations to all of you laboratory technicians that are doing good lab work out there. Your regional compliance inspector and I appreciate your efforts to report accurate DMR data.

Ken Jones

## Standard Conditions

This is the last in a series of articles that has run for the past two years. All of the “STANDARD CONDITIONS” found in all permits have now been covered. The articles refer to the current set of Standard Conditions, but also apply similarly to previous versions and editions; they’ve always copied or closely tracked DEP and EPA regulations.

Regardless of when your permit was issued, you need to dig out the Standard Conditions (a separate, apparently generic attachment to your license after the “SPECIAL CONDITIONS”) and review them. If you’re like a lot of other treatment facility owners or operators, this may be your first time! It may seem like pretty dull, “boilerplate” stuff, but the Standard Conditions are important to assuring that your treatment facility is in full compliance with its permit and all applicable laws and statutes. The complete list of Standard Conditions may be found on line at:

<http://www.state.me.us/dep/blwq/docs/tand/wd/general.htm>

### A. GENERAL PROVISIONS

#### 7. Oil and hazardous substances.

*Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties to which the permittee is or may be subject under section 311 of the Federal Clean Water Act; section 106 of the Federal Comprehensive Environmental Response, Compensation and Liability Act of 1980; or 38 MRSA §§ 1301, et. seq.*

Wastewater treatment plants of many types may use or handle substances that are subject to regulation as hazardous matter, hazardous waste or oil. The regulatory issues for these substances may not be directly outlined in your license.

Any spill of a petroleum product is required to be reported within 2 hours of detection by the responsible party. The need for you to report would be obvious for fuels used by the treatment facility. However, even when the petroleum product comes from an upstream source and the treatment plant is not responsible; it is still advisable to contact the DEP response unit assigned to your area. The spill may not have been reported by anyone and your call may be the first one to get trained DEP response staff to the site. DEP response staff can be of great assistance in cleanup efforts and in identifying the responsible party.

Chlorine gas and sodium hypochlorite used in disinfection systems are hazardous materials and any discharge of these from containment should be reported. Some facilities have ammonia addition facilities. Concentrated ammonia is also hazardous. Some reagents used in sampling and testing may have toxic or hazardous components. One recent example is a test reagent commonly used at drinking water plants to test fluoridation levels. Even after dilution of the reagent during conduct of the test, the entire spent sample contains enough arsenic to qualify as hazardous waste. A more recent category of concern is universal waste. Many items classified as universal waste contain mercury and must be handled and disposed of properly. These include switches and

other controls containing mercury, thermometers and thermostats, fluorescent light bulbs, CRT tubes and monitors.

Your assigned inspector should be able to help you understand the regulatory requirements and who to contact for proper control of oil, hazardous materials, hazardous wastes and solid wastes.

**8. Property rights.** *This permit does not convey any property rights of any sort, or any exclusive privilege.*

**11. Other laws.** *The issuance of this permit does not authorize any injury to persons or property or invasion of other property rights, nor does it relieve the permittee of its obligation to comply with other applicable Federal, State or local laws and regulations.*

These two conditions are quite self-explanatory and emphasize that the MEPDES permit and Waste Discharge License solely authorize the discharge of the listed pollutants by the listed pipe or other conveyance under the limitations or conditions specified and nothing more. Any use of property not controlled by the facility owners must be obtained by separate legal actions such as easements. If other governmental bodies have authority over your activities, the permit does not overrule them. You must also abide by the rules administered by those authorities.

## **E. OTHER REQUIREMENTS**

**3. Removed substances.** *Solids, sludges, trash rack cleanings, filter backwash, or other pollutants removed from or resulting from the treatment or control of waste waters shall be disposed*

*of in a manner approved by the Department.*

This condition is very similar to the condition above on oil and hazardous wastes. There are a variety of solid wastes produced or handled by waste treatment plants that are controlled under the solid waste regulations. Most treatment plants generate solid wastes such as grit, screenings, sludges and sediments. Disposal of these materials is controlled by the solid waste or beneficial reuse regulations. The disposal options vary depending on the constituents of the material to be disposed, and can range from land-spreading to composting to disposal at secure landfills.

## **F. DEFINITIONS**

Aside from the comments below, the definitions are self-explanatory and will not be discussed individually here. However, it is a good idea to read through these to ensure that you understand all of them. If you have any questions or need further guidance, you should contact your assigned inspector for discussion.

**Grab sample:** The definition in the standard conditions is fine. However, some elaboration is needed on the use of grab samples for the determination of daily values. In nearly all cases, the license requires a daily value for pollutants, rather than an instantaneous maximum value. What we normally refer to as a daily maximum limit is actually the maximum daily limit. After the excursion beyond limits has been corrected, other grab samples can be taken to document that the effluent was in compliance on a daily basis. For

more detail, please review this topic in the December 2000 O&M News, which can be found at

<http://www.state.me.us/dep/blwq/newslett/omarchiv.htm>.

**Average weekly discharge limitation:**

This is also the subject of a previous O&M News article (January 2005). Please review that for additional detail, but briefly, weekly averages run from Sunday through Saturday, inclusive, and should be reported with the month in which the week ends.

**Pass-through:** This is a pretreatment issue, as is Interference. Note that for either of these to be documented, there must be a violation of a limitation or condition of your license. They differ in that pass-through is due to a constituent not treated by the treatment works and interference is caused by the treatment system being upset by the constituent.

**Septage:** The definition here gives greater detail that the special condition about what constitutes septage and what does not. This definition is the same as that found in the DEP rule concerning the addition of septage to waste treatment systems.

Phil Garwood

**DEP Enters Agreement with  
NEIWPCC/JETCC to  
Administer the Wastewater  
Operator Certification Program**

As of January 1, 2006, the Maine Department of Environmental Protection has entered into an agreement with the New England Interstate Water Pollution Control Commission (NEIWPCC) to provide administrative services for the

Wastewater Operator Certification Program. The offices of the Joint Environmental Training Coordinating Committee (JETCC) will be handling operator renewals starting with this year. JETCC staff will also be coordinating the administration of the wastewater operator exams in May and November. The DEP will continue to approve and issue individual certifications and oversee the program.

For many years, the fees collected for the Wastewater Operator Certification Program have paid only a fraction of the cost of administering the program. To make sure that the program can be self-sustaining, the fees have been increased to cover the actual costs for administering the program. The biennial recertification fee has been increased from \$20.00 to \$50.00. The reinstatement fee is now \$25.00 rather than \$10.00. The fees for each examination will be \$75.00 and there will no longer be a lower fee for retaking an exam at the same grade level. The increase in fees would have been necessary even if the administration of the Wastewater Operator Certification Program had not been assigned to NEIWPCC/JETCC.

If you have any questions, please contact Dick Darling at 287-7806 or by email at [dick.darling@maine.gov](mailto:dick.darling@maine.gov).

## Electronic Copies of the O&M news

We continue to distribute the *O&M News* electronically to anyone who sends us a valid email address. We also have the current *O&M News* and archived copies of past issues on our web site at <http://www.state.me.us/dep/blwq/newslett/omnews.pdf> , but e-mail is a quicker way to get the news in your hands.

If you have e-mail and would like to receive the O&M News electronically instead of in the mail, please send an e-mail to: [dick.darling@maine.gov](mailto:dick.darling@maine.gov) or [leslie.a.rucker@maine.gov](mailto:leslie.a.rucker@maine.gov)

### For Practice

1. What test would you run to determine the proper dosage for a polymer used for sludge conditioning?
  - a. A dye test
  - b. A DPD test
  - c. A jar test
  - d. A SOUR test
2. Which of the following is most resistant to disinfection?
  - a. Fecal Coliform
  - b. Salmonella
  - c. Protozoa
  - e. Type 021N
3. An operator who normally wastes 1200 gallons of sludge with a concentration of 2% is now able to pump sludge with a 6% concentration. How many gallons should be pumped to remove the same amount of sludge solids?
  - a. 1020 gallons
  - b. 780 gallons
  - c. 540 gallons
  - d. 400 gallons
4. If, on your morning walk-through of the plant, you smell a sour, septic odor coming from your secondary clarifiers and when you examine the return sludge, it is black. What would you do to fix this problem?
  - a. reduce the return rate to prevent septic sludge from harming the aeration basins.
  - b. increase the return rate to reduce the sludge detention time in the clarifiers.
  - c. increase the number of times the clarifiers are cleaned.
  - d. do nothing, this is a normal operating condition.
5. A new industry is planning to locate in your town. They will be discharging process water to your treatment facility. You have received a sample of process water from another factory owned by the same company that has the same pollutants in the same quantities as the water you will be receiving at your facility. You mix some of the sample with some of your present influent in a ratio comparable to what you expect to receive when the new factory comes on line. When you run an OUR test on this mixture, you note that the respiration rate decreases. This indicates:
  - a. The mixture is toxic to the mixed liquor.
  - b. The sample is over aerated.
  - c. The MLSS must be decreased to accept this waste.
  - d. The new waste may require additional aeration to stabilize.
6. Your discharge license requires you to store wastewater in your lagoon for 180 days in the winter. If you have

an average influent flow of 112,500 gallons/day and a total pond area of 17.22 acres (750,000 sq.ft.), how much freeboard do you need in your 8 foot deep lagoon.

- a. 1.5 ft.
- b. 3.6 ft.
- c. 4.3 ft.
- d. 6.0 ft.

7. The term “return sludge” usually refers to sludge from:
- a. Primary Clarifiers
  - b. Secondary Clarifiers
  - c. Aerobic Digesters
  - d. Anaerobic Digesters
8. Which waterborne disease is not caused by a virus?
- a. AIDS
  - b. Influenza
  - c. Polio
  - d. Cholera

### ***Approved Training***

February 2, 2006 in Presque Isle, ME – Basic Electricity, Motors and Instrumentation for Water and Wastewater Plants - sponsored by JETCC – 207-253-8020 – Approved for 6 hours  
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January 12, 2006 in Biddeford, ME – Household Hazardous Waste - sponsored by MRWA (207) 729-6569 – Approved for 4 hours  
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January 18, 2006 in Augusta, ME – Household Hazardous Waste - sponsored by MRWA (207) 729-6569 – Approved for 4 hours  
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January 18, 2006 in Farmington, ME – Household Hazardous Waste - sponsored

by MRWA (207) 729-6569 – Approved for 4 hours  
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January 18, 2006 in Madawaska, ME – Household Hazardous Waste - sponsored by MRWA (207) 729-6569 – Approved for 4 hours  
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February 3, 2006 in Saco, ME – Basic Instrumentation Measurement and Control with Introduction to SCADA - sponsored by JETCC – 207-253-8020 – Approved for 6 hours  
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February 14, 2006 in Brunswick, ME – Vulnerability Assessment & Emergency Response Planning for Wastewater Systems - sponsored by MRWA (207) 729-6569 – Approved for 3 hours  
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February 15, 2006 in Portland, ME – Pipebursting, a Practical and Diverse Rehab Option - sponsored by JETCC – 207-253-8020 – Approved for 6 hours  
\*\*\*\*\*

February 16, 2006 in Bangor, ME – Vulnerability Assessment & Emergency Response Planning for Wastewater Systems - sponsored by MRWA (207) 729-6569 – Approved for 3 hours  
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March 1-3, 2006 in Bangor, ME – O&M of Wastewater Collection Systems - sponsored by JETCC – 207-253-8020 – Approved for 6 hours  
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March 8, 2006 in Augusta, ME – Microsoft Access for Water and Wastewater Operators - sponsored by JETCC – 207-253-8020 – Approved for 6 hours  
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March 14, 2006 in North Vassalboro,  
ME – The Impact of Water Treatment  
Practices on Wastewater Treatment Plant  
Operations - sponsored by JETCC –  
207-253-8020 – Approved for 6 hours  
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March 27, 2006 in Portland, ME –  
Nitrification & Denitrification in  
Wastewater Facilities - sponsored by  
JETCC – 207-253-8020 – Approved for  
6 hours  
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March 28, 2006 in Norway, ME –  
Instrumentation Calibration Basics -  
sponsored by JETCC – 207-253-8020 –  
Approved for 6 hours  
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April 4, 2006 in Brewer, ME – A Day in  
the Wastewater Lab - sponsored by  
JETCC – 207-253-8020 – Approved for  
6 hours  
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April 12, 2006 in Orono, ME –  
Microsoft Access for Water and  
Wastewater Operators - sponsored by  
JETCC – 207-253-8020 – Approved for  
6 hours  
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May 3, 2006 in Freeport, ME –  
Residuals Management through  
Compound Loop Systems - sponsored  
by JETCC – 207-253-8020 – Approved  
for 6 hours  
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Note:

JETCC stands for Joint Environmental  
Training Coordinating Committee  
MRWA stands for Maine Rural Water  
Association

MWWCA stands for Maine Wastewater  
Control Association

NEIWPCC stands for New England  
Interstate Water Pollution Control  
Commission

WPETC stands for Wright Pierce  
Environmental Training Center.

## Fall 2005 Exam Results

Here are the statistics for the Fall Exam

	Test	Passed	Pass/Fail
Grade 1	19	12	63.2%
Grade 2	5	4	80.0%
Grade 3	12	1	8.3%
Grade 4	6	3	50.0%
Grade 5	13	1	7.7%
Overall	55	21	38.2%

## Spring 2006 Exam

The Spring wastewater operator  
certification exam, it will be given on  
May 10, 2006 in the usual locations.  
This is the first exam that will be  
administered through the JETCC Office.  
Applications **must** be postmarked by  
March 24, 2006 or in JETCC's hands by  
March 27, 2006. JETCC's address is;  
JETCC  
PO Box 487  
Scarborough, ME 04070-0487  
Phone – (207) 253-8020

***Dick Darling***

### Answers to *For Practice*:

1. c A jar test is used to determine the proper dosage of polymer for good sludge conditioning
2. a We use Fecal Coliform bacteria as an indicator organism because they are present in the fecal waste of humans but they resist common forms of disinfection better than the disease-causing bacteria that are also sometimes present in fecal wastes
3. d  $1200 \text{ gallons} \times 0.02 / 0.06 = 400 \text{ gallons}$
4. b. You want to get the sludge out of the anaerobic conditions and back into the aeration tanks where oxygen is present so that the sludge can recover from its reduced state.
5. a A decrease in the respiration rate indicates that there may be something in the industrial waste that is toxic to the mixed liquor. Some pretreatment may be necessary at the industry to remove the toxic substance(s) that are causing the respiration rate to decrease.
6. b  $112,500 \text{ gal/day} \times 180 \text{ days} = 20,250,000 \text{ gals}$   
 $20,250,000 \text{ gals} / 7.5 \text{ cu. ft. /gal} = 2,700,000 \text{ cu. ft.}$   
 $2,700,000 \text{ cu. ft.} / 750,000 \text{ sq. ft.} = 3.6 \text{ ft. of freeboard}$   
You would need to draw down your lagoon so that less than 4.4 feet of water remained in the lagoon at the beginning of the storage season.
7. b Return sludge is the settled mixed liquor containing active microorganisms which is returned to the aeration basin from the secondary clarifiers.
8. d The only disease listed which is not caused by a virus is Cholera.